

## METHOD FOR PADDING MACROBLOCKS

### Abstract of the Disclosure

5 A method for efficiently padding a macroblock of a video object plane employs two new instructions. The instructions, *PadToRight* and *PadToLeft*, are applied in alternating sequence during a PadPass 1 operation and a PadPass 2 operation. The results of these two operations are then averaged to pad each transparent pixel in each row of a macroblock that includes at least one opaque pixel. A *Shift\_in* register is used to temporarily store data to facilitate the operation implemented by these instructions. Once the transparent pixels in each row have been padded horizontally, pixels in rows having shape data equal to zero (indicating all pixels in the row are transparent) are padded in a pre-processing step, followed by an upward propagation step. The two instructions are preferably implemented using 2:1 multiplexers implemented with an arithmetic logic unit. The method is particularly useful in set-top boxes, games, and other video applications.